

AMENDMENTS TO THE CLAIMS

1 – 27. canceled.

28. (currently amended) A portable respiratory aid system for administrating a regulated flow of air to a person's airway, especially to a person suffering from sleep apnea, the respiratory aid system comprising:

a source of high pressure air;

an air delivery nasal interface, ~~the nasal air delivery interface~~ comprising:

~~at least one nasal adaptor attachable to a person's nostril, the at least one nasal adaptor comprising an air passage; two air delivery units configured for delivering a flow of air each to a respective nostril of said person, the two air delivery units being pivotally mounted on opposite ends of a flat elongated flexible member configured to be placed above the upper lip of said person, wherein each of said two air delivery units comprises a~~

~~at least one Venturi device, the at least one said Venturi device comprising a hollow member defining a central space and an inlet which opens into said central space, a first and a second open ends, and a first inlet which opens into said central space, wherein the first open end is open to surrounding ambient air and the a second open end being provided with a nasal adaptor attachable to a nostril of said person, is in fluid communication with the air passage of said at least one nasal adaptor, and wherein said first inlet is configured for receiving a flow of high pressure gas air via a thin flexible tubing and for directing said flow of high pressure gas air toward said second open end; and~~

~~at least one sensor for monitoring breathing of said person;~~

~~at least one flexible a thin flexible tubing bifurcating into two branches connecting said source of high pressure air and said first inlet of said at least one Venturi device for delivering a flow of high pressure air from said source of high pressure air to said first inlet of each said Venturi device, said tubing being configured for serving as strapping means for strapping said air delivery nasal interface to said person's head;~~

at least one sensor for monitoring breathing of said person;
and

a control unit operably connected to said at least one sensor for
regulating said flow of high pressure air in accordance with said monitored breathing,
the control unit comprising a microprocessor and a memory device configured for
monitoring a breathing pattern over time, thereby enabling a real-time regulation of
said flow of air in accordance with respiratory cycles of said person and a long term
regulation in accordance with said monitored breathing pattern.

29. (previously presented) The respiratory aid system of claim 28 wherein the thin tubing diameter is in the range of 2 to 5 mm and wherein said source of high pressure air has an output pressure in the range of 2 to 6 Atmospheres.
30. (previously presented) The respiratory aid system of claim 28 wherein said source of high pressure air is a portable container of compressed air.
31. (previously presented) The respiratory aid system of claim 28 wherein said source of high pressure air is an oil-less air compressor.
32. (currently amended) The respiratory aid system of claim 28 wherein said at least one sensor is a sound transducer or a temperature detector.
33. (currently amended) The respiratory aid system of claim 28 wherein said at least one sensor is a pressure detector.
34. (currently amended) The respiratory aid system of claim 28 further comprising a controllable valve operably connected to said control unit, said controllable valve is interposed between said source of high pressure air and said first inlet of the at least one Venturi device.

35. (previously presented) The respiratory aid system of claim 34 wherein said controllable valve is an on/off valve.
36. (previously presented) The respiratory aid system of claim 34 wherein said controllable valve is a flow regulation valve.
37. (previously presented) The respiratory aid system of claim 31 wherein said control unit is operably connected to said oil-less compressor.
38. (canceled).
39. (previously presented) The respiratory aid system of claim 28 further comprising a chest-mounted sensor adapted for detecting expansion and contraction of the chest of the person.
40. (currently amended) The respiratory aid system of claim 28 wherein the at least one of said Venturi device further comprises a second inlet which opens into said central space and wherein said second inlet is configured for receiving a flow of high pressure gas air and for directing said flow of high pressure gas air toward said first open end.
41. (currently amended) An air delivery nasal interface comprising:
two air delivery units configured for delivering a flow of air to one of a pair of nostrils of a person, said two air delivery units being pivotally mounted on opposite ends of a flat elongated flexible member configured to be placed above the upper lip of said person, wherein each of said two air delivery units comprises a Venturi device, wherein each of said Venturi devices comprises a hollow chamber defining a central space, and an inlet which opens into said central space, said hollow member having a first open end which opens to surrounding ambient air and a second open end provided with a nasal adaptor, wherein the inlet of each of said Venturi devices

is configured to receive a flow of high pressure air via a thin tubing and to direct said flow of high pressure air toward said second open end, wherein said flow of high pressure air upon entering said central space acts as a driving force for drawing ambient air through said first end toward said second open end;
~~at least one nasal adaptor attachable to a person's nostril, the at least one nasal adaptor comprising an air passage;~~
~~at least one Venturi device, the at least one Venturi device comprising a central space, a first and a second open ends, and a first inlet which opens into said central space, wherein the first open end is open to surrounding ambient air and the second open end is in fluid communication with said air passage of said at least one nasal adaptor, and wherein said first inlet is configured for receiving a flow of high pressure gas and for directing said flow of high pressure gas toward said second open end; a thin flexible tubing bifurcating into two branches for connecting a source of high pressure air to each of said inlets of said two air delivery units, said tubing being configured for serving as strapping means for strapping said air delivery nasal interface to a person's head; and~~
~~at least one sensor for monitoring breathing of a person using the nasal air delivery nasal interface unit.~~

42. (currently amended) The air delivery nasal interface of claim 41 wherein said at least one sensor is a sound transducer or a temperature detector.
43. (currently amended) The air delivery nasal interface of claim 41 wherein said at least one sensor is a pressure detector.
44. (currently amended) The air delivery nasal interface of claim 41 further comprising a controllable valve interposed upstream of the two first inlets of said two air delivering units said first inlet.

45. (currently amended) The air delivery nasal interface of claim 41 wherein the at least one Venturi devices further comprises a second inlet which opens into said central space and wherein said second inlet is configured for receiving a flow of high pressure ~~gas~~ air and to direct said flow of high pressure ~~gas~~ air toward said first open end.
46. (previously presented) The air delivery nasal interface of claim 45 further comprising a controllable valve operably interposed between said first and second inlets, the controllable valve is configured for allowing direction of flow to either the first inlet or to the second inlet.

47 – 52 (Canceled).

53. (currently amended) A method for administrating a controlled flow of air to a person suffering from sleep apnea, in accordance with the real-time needs of said person, the method comprising:

connecting a portable source of ~~compressed~~ high pressure air by means of a thin tubing to ~~an inlet port~~ of an air delivery nasal interface wherein the air delivery nasal interface comprises an ~~at least one~~ two Venturi devices, wherein each of said Venturi devices comprises a hollow member defining a central space, an inlet that opens ~~in to~~ into said central space, each hollow member having a first open end that opens into surrounding ambient air and a second opened provided with a nasal adaptor attachable to a person's nostril, each of said Venturi devices being configured to receive a flow of high pressure air through said inlet and to direct said flow of high pressure air toward said second end, thereby drawing ambient air from said first open end toward said second open end and reducing said high pressure to a pressure of lower value; ~~interposed between said inlet port and at least one nasal adaptor configured to be attached to a person's nostril, the at least one Venturi device is having a first open end which opens to ambient air and a second open end which opens into an air passage in said nasal adaptor;~~

monitoring the breathing of said person by means of a sensor; and

delivering a flow of ~~compressed~~ high pressure air from said source of ~~compressed~~ high pressure air via said thin tubing to said air delivery nasal interface via the inlets of said two Venturi devices; and

automatically regulating said flow of high pressure air in accordance with the monitored breathing so as to administer a flow of a desired pressure to said person when an apneic breathing pattern is detected and turning off the flow of high pressure air upon detection of a regular non-obstructed breathing.

54. (currently amended) The method of claim [[50]]53 wherein said source of ~~compressed~~ high pressure air is a container of high pressure air.

55. (currently amended) The method of claim [[50]]53 wherein said source of ~~compressed~~ high pressure air is an oil-less air compressor.

56. (currently amended) The method of claim 53, wherein said regulating the flow of air in accordance with the monitored breathing comprises the steps of:

automatically turning off the supply of flow of high pressure air upon detection of a regular non-obstructive breathing during exhalation phase; and

automatically turning on the supply of flow of high pressure air upon detection of a breathing disorder during inhalation phase.

57. (new) The respiratory air system of claim 28 wherein said long term regulation in accordance with said monitored breathing pattern comprises turning on said flow of high pressure air upon detection of a breathing disorder and turning it off upon detection of a regular non-obstructive breathing.